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NSF 10-023

Dear Colleague Letter: SBIR/STTR and ERC Collaboration Opportunity (SECO)

MEMORANDUM

Date: February 3, 2010

To: NSF Small Business Innovation Research Grantees (SBIR/STTR)
Engineering Research Center (ERC) Directors

From: Dr. Kesh Narayanan, Division Director
Division of Industrial Innovation and Partnerships (ENG/IIP)
and
Dr. Allen Soyster, Division Director
Engineering Education and Centers (ENG/EEC)

Re: SBIR/STTR and ERC Supplement Opportunity for Collaborations (SECO)

Dear Colleagues:

The purpose of this letter is to announce an opportunity for grantee collaborations between IIP's Small Business Innovation Research/Small Business Technology Transfer (SBIR/STTR) program and EEC's Engineering Research Center (ERC) program to accelerate innovative research and technology advances to the market place. The goals of this effort are to provide a mutually beneficial research and commercialization platform where SBIR/STTR companies can perform collaborative research with ERC faculty, researchers, and graduate students that strengthens the capacity of their firms and/or speeds the translation of ERC advances to the market place. The purpose of this DCL is to open the doors for SBIR/STTR companies to benefit from the innovative and leading-edge research performed at ERCs and for the ERCs to benefit from the role of small firms in carrying out research to speed research results into commercial products.

Two options are provided for grantees to consider when submitting supplemental funding requests. These options include:

Option 1: Active SBIR/STTR initiated collaborations - with either an active or a self-sustaining, graduated ERC (Submitted as a supplement request to the active SBIR/STTR grant).

Option 2: Active ERC initiated collaborations - with any already-established small R&D firm that meets the "small business" eligibility requirements as defined by the SBIR program (Submitted as a supplement request to the active ERC grant).

Similar Opportunities to Consider: Although this DCL is for supplemental proposals to existing grants or cooperative agreements only, opportunities exist for all small companies (ERC-members, non-ERC affiliated companies, and companies spun off by students/faculty in ERCs) to submit a Phase I SBIR/STTR proposal with ERC participation. Students, faculty, and other entrepreneurs are encouraged to explore the opportunities outlined on <http://www.nsf.gov/eng/iip/sbir> in forming new strategic partnerships and companies that can spur innovation.

This opportunity is implemented through the current Small Business Innovation Research Program Phase I Solicitation as announced on <http://www.nsf.gov/eng/iip>.

Intent to Submit a Supplemental Funding Request Deadline: A letter of intent to submit a supplemental funding request is due March 15, 2010, and should/must include a statement of the goals and purposes of the award and the names of the partnering small business firm/ERC. The letter of intent must be emailed to rdasgupt@nsf.gov and to djackson@nsf.gov.

Supplemental Funding Request Deadline: Supplemental funding requests must be submitted via FastLane on or before April 15, 2010 (5 p.m. submitter's local time).

Document Replaced: This document replaces NSF 09-009.

Eligibility for SBIR/STTR Initiated Collaborations: Only companies with **active** NSF SBIR/STTR Phase II and Phase IIB awards are eligible to directly apply to the SBIR program under Option 1. An active SBIR/STTR awardee is one with an NSF award which has not yet expired. In addition, the company is only eligible to apply when an **active or self-sustaining, graduated** ERC participates in the collaborative research project. A potential list of SBIR/STTR members can be viewed using the NSF award search tool at <http://www.nsf.gov/awardsearch/tab.do?dispatch=4> and confining the search to Element Code 5373 or 1591 for awards. Details about the award and PI are viewable by clicking on the award number.

Eligibility for ERC Initiated Collaborations: Only NSF ERCs with **active** awards are eligible to apply directly to the Engineering Research Centers program for Option 2. An active ERC awardee is one with an NSF award which has not yet expired. An active ERC is only eligible to apply when an already-established small R&D firm participates in the collaborative research project.

Definition of Graduated: Eligible self-sustaining, graduated ERCs under this opportunity are defined as ERCs in the Class of 1990 or later that are listed in the attachment. This listing is the result of a survey that determined if graduated ERCs were self-sustaining or not.

Estimated Number of Awards: Approximately **20** award supplements will be made to grantees.

Anticipate Funding Amount: Total program funding is **\$4,000,000**. Award supplements may be made for **up to 24 months and up to \$200,000 each** pending the availability of funds.

DESCRIPTION OF THE COLLABORATION OPPORTUNITY

This collaboration opportunity seeks to form partnerships between small businesses and ERCs that will leverage NSF's investments in SBIR/STTRs and ERCs to speed innovation. The Small Business Innovation Research/Small Business Technology Transfer program stimulates entrepreneurship in this country through government support for research in small business. These small firms often need additional research to commercialize their products. The agility of small companies to respond to market conditions and opportunities have the potential of providing substantial commercialization advantages. The Engineering Research Centers program creates a culture in engineering research and education that links discovery to technological innovation through transformational fundamental and engineered systems research in order to advance technology and produce engineering graduates who will be creative U.S. innovators in a globally competitive economy.

These partnerships are expected to lead to one or both of the following outcomes:

- ERC generated research will be more quickly translated into the marketplace through collaboration with an SBIR/STTR awardee or small R&D firm.

- The capability of an SBIR/STTR awardee or small R&D firm to achieve its product goals will be strengthened through the research capacity of an ERC.

Supplemental Funding Request Preparation Instructions: Supplemental funding requests must be submitted through FastLane as a supplement to either the active SBIR/STTR grant (option1), or the active ERC grant (option 2). In either case, the supplemental funding request must contain a letter of endorsement from both the ERC director and the SBIR/STTR or small R&D firm president or CEO.

For active SBIR/STTR initiated collaborations (option 1), SBIR/STTR firms with current NSF awards must submit the supplement request with an active ERC or a self-sustaining, graduated ERC participating in the research collaboration. The total amount of the budget for the supplement must not be more than \$200,000 including the sub-award. If the grantee is an STTR Phase II company, the sub-award budget to the ERC must be a minimum of 30% and a maximum of 60% of the total supplemental amount that is not to exceed \$200,000. If the grantee is an SBIR Phase II company, the sub-award budget to the ERC must not exceed 50%.

For active ERC- initiated collaborations (option 2), ERCs must submit the supplement request with a small R&D firm participating in the research collaboration. This request must be submitted as a supplement by an Engineering Research Center that is supported by the ERC Program. The lead organization is the lead institution of the ERC and the small R&D firm will be a sub-awardee to the lead institution. The total amount of the budget for the supplement must not be more than \$200,000 including the sub-award. The sub-awardee budget to the small R&D firm must be a minimum of 30% or a maximum of 60% of the total supplemental amount that is not to exceed \$200,000.

Supplement Proposal Format and Page Limits (Project Description not to exceed 10 pages):

- Project Summary including the Intellectual Merit and Broader Impact (one page limit).
- Description of the innovation and objectives and how the partnership will achieve one or both of the outcomes defined above
- Rationale for collaboration including tasks to be performed
- Plan for student Involvement
- Future commercialization plan

Proposed budget & budget justification– the proposed budget must include sufficient funding for travel to a possible one-day workshop at NSF. It is important that this workshop be attended by three persons from the research collaboration team: one representative from the ERC, one from the SBIR/STTR or small R&D firm, and at least one student.

Include the following as supplementary documents:

- Endorsement letter from both the ERC Center Director and the SBIR/STTR or small R&D firm president or CEO.
- Biographies of the SBIR/STTR or small R&D firm PI and senior staff (not to exceed 2 pages total)
- Biographies of the ERC PI and co-PI (not to exceed 2 pages total)
- Post-doc mentoring plan (if post-docs are proposed)

Special Submission Instructions:

Option 1: For active SBIR/STTR initiated collaborations, the SBIR/STTR firm will submit the proposal as a supplement request and must e-mail the SBIR ERC coordinator, Rathindra (Babu) DasGupta, at rdasgupta@nsf.gov, after submitting the proposal through FastLane. The email must provide the proposal number.

Option 2: For all active ERC initiated collaborations, the ERCs will submit the proposal as a supplement request and must email the SBIR ERC coordinator: Deborah Jackson at, djackson@nsf.gov after submitting the supplement request through FastLane. The email must provide the proposal number.

Supplement proposal requests not following these instructions will be returned without review. Call the FastLane Help Desk at 1-800-673-6188 or e-mail fastlane@nsf.gov for user support concerning supplement submissions. The FastLane Help Desk answers general technical questions related to the use of the FastLane system. When contacting FastLane, inform the technician that you are required to apply for this opportunity as a supplement.

Review: Supplemental funding requests submitted in response to this opportunity will be reviewed externally through mail and/or panel review.

Special Reporting Requirements:

Plans for monitoring and assessment may include such elements as:

- Semi-annual reports from SBIR/STTR firms with awards from this DCL
- Semi-annual reports from ERCs with awards from this DCL
- Annual Grantee Conference
- Post-award monitoring through site visits to small business
- Post-award monitoring through site visits to the ERC
- External evaluation

Additional Information:

- Rathindra DasGupta, IIP Program Director, ERC SBIR Coordinator, telephone: (703) 292-8353, email: rdasgupt@nsf.gov
- Deborah Jackson, EEC Program Director, telephone: (703) 292-7499, email: djackson@nsf.gov
- Barbara Kenny, EEC Program Director, telephone: (703) 292-4667, email: bkenny@nsf.gov

For questions related to the use of FastLane and details of how to submit a request for supplemental funding contact: FastLane Help Desk, telephone: 1-800-673-6188; e-mail: fastlane@nsf.gov

Attachment for Engineering Research Centers by Cluster

FY 2009

CURRENT CENTERS

Biotechnology and Health Care

- **Synthetic Biology ERC**, University of California, Berkeley in partnership with Harvard University, the Massachusetts Institute of Technology, Prairie View A&M University (HBCU), and the University of California, San Francisco, Class of 2006
- **Quality of Life ERC**, Carnegie Mellon University in partnership with the University of Pittsburgh, Class of 2006
- **ERC for Revolutionizing Metallic Biomaterials**, North Carolina A&T State University (HBCU) in partnership with the University of Cincinnati and the University of Pittsburgh, Class of 2008
- **ERC for Structured Organic Particulate Systems**, Rutgers University in partnership with New Jersey Institute of Technology, Purdue University, and the University of Puerto Rico-Mayaguez (MSI), Class of 2006
- **Biomimetic MicroElectronic Systems ERC**, University of Southern California in partnership with Caltech and the University of California, Santa Cruz, Class of 2003

Energy, Sustainability, and Infrastructure

- **ERC for Biorenewable Chemicals**, Iowa State University in partnership with Rice University, the University of California, Irvine, the University of New Mexico (MSI), the University of Virginia, and the University of Wisconsin-Madison, Class of 2008
- **ERC for Compact and Efficient Fluid Power**, University of Minnesota in partnership with Georgia Institute of Technology, Purdue University, the University of Illinois at Urbana-Champaign, and Vanderbilt university, Class of 2006
- **ERC for Future Renewable Electric Energy Delivery and Management**, North Carolina State University in partnership with Arizona State University, Florida State University, Florida A&M University (HBCU), Missouri University of Science and Technology, Class of 2008
- **Smart Lighting ERC**, Rensselaer Polytechnic Institute in partnership with Boston University and the University of New Mexico (MSI), Class of 2008

Micro/Optoelectronics, Sensing, and IT

- **ERC for Integrated Access Networks**, University of Arizona in partnership with the California Institute of Technology, Norfolk State University (HBCU), Stanford University, Tuskegee University (HBCU), the Universities of California at Berkeley, San Diego, and Los Angeles, and the University of Southern California, Class of 2008
- **ERC for Extreme Ultraviolet Science and Technology**, Colorado State University in partnership with the University of Colorado, Boulder and the University of California, Berkeley, Class of 2003
- **ERC for Collaborative Adaptive Sensing of the Atmosphere**, the University of Massachusetts-Amherst in partnership with Colorado State University, the University of Oklahoma, and the University of Puerto Rico-Mayaguez (MSI), Class of 2003

- **Wireless Integrated Microsystems ERC**, University of Michigan in partnership with Michigan State University, and Michigan Technological University, Class of 2000
- **Gordon ERC for Subsurface Sensing & Imaging Systems**, Northeastern University in partnership with Boston University, Rensselaer Polytechnic Institute, and the University of Puerto Rico-Mayaguez (MSI), Class of 2000
- **ERC on Mid-Infrared Technologies for Health and the Environment**, Princeton University in partnership with the City University of New York, Johns Hopkins University, Rice University, Texas A & M University, and the University of Maryland – Baltimore County, Class of 2006

SELF-SUSTAINING, GRADUATED CENTERS

Biotechnology and Health Care

- **ERC for the Engineering of Living Tissues**, Georgia Tech (*lead*) – Class of 1998
- **Center for Computer-Integrated Surgical Systems and Technology**, Johns Hopkins University (*lead*) – Class of 1998
- **Biotechnology Process Engineering Center**, MIT – Class of 1995
- **Center for Biofilm Engineering**, Montana State University – Class of 1990
- **VaNTH ERC for Bioengineering Educational Technologies**, Vanderbilt University (*lead*) – Class of 1999
- **Engineered Biomaterials ERC**, University of Washington – Class of 1996

Energy, Sustainability, and Infrastructure

- **Multidisciplinary Center for Earthquake Engineering Research**, The University at Buffalo (*lead*) – Class of 1997
- **Pacific Earthquake Engineering Research Center**, University of California at Berkeley (*lead*) – Class of 1997
- **Mid-America Earthquake Center**, University of Illinois at Urbana-Champaign (*lead*) – Class of 1997

Micro/Optoelectronics, Sensing, and IT

- **Center for Neuromorphic Systems Engineering**, Caltech – Class of 1995
- **Data Storage Systems Center**, Carnegie Mellon – Class of 1990
- **Microelectronics Packaging Research Center**, Georgia Tech – Class of 1995
- **Center for Computational Field Simulation**, Mississippi State – Class of 1990
- **Integrated Media Systems Center**, University of Southern California – Class of 1996
- **Center for Power Electronics Systems**, Virginia Tech (*lead*) – Class of 1998

Manufacturing and Processing

- **ERC for Environmentally Benign Semiconductor Manufacturing**, University of Arizona – Class of 1996
- **Center for Advanced Engineering of Fibers and Films**, Clemson University (*lead*) – Class of 1998

- **Particle Engineering Research Center**, University of Florida – Class of 1994
- **Systems Research Center**, University of Maryland – Class of 1994
- **ERC for Reconfigurable Manufacturing Systems**, University of Michigan – Class of 1996